

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



1  
Ag863V



**SPECIAL.**

Issued December 15, 1914.

U. S. DEPARTMENT OF AGRICULTURE.

OFFICE OF THE SECRETARY.

---

## HAIRY VETCH FOR THE COTTON BELT.

By C. V. PIPER,

*Agrostologist in Charge of Forage-Crop Investigations, Bureau of Plant Industry.*

Hairy vetch is a pealike plant also known as sand vetch and Russian vetch. It is also commonly known as winter vetch, to distinguish it from common or spring vetch. Hairy vetch is adapted to the entire cotton region. It is a winter crop, requiring essentially the same season and conditions for success as do winter oats, but it seldom winterkills even in the most northern States. Vetch is a legume and can therefore utilize the nitrogen of the air. In value as a cover crop and for hay and pasture it is comparable to the clovers. Hairy vetch will succeed on almost any type of soil so long as it is well drained. It is especially desirable to grow on poor sandy soils, but succeeds well on clay. It is the most drought resistant of all the cultivated vetches.

### SOWING THE SEED.

Hairy vetch may be sown in the cotton belt at any time in the fall after the hot weather is over. September 15 is probably the best average date, but north of Atlanta and Birmingham it can be seeded as early as August 15, and in warm, sandy soils farther south as late as December. There is rarely any difficulty in securing germination. If the soil is too dry, the seed remains practically uninjured until there is sufficient moisture. The preparation of the ground should be essentially the same as for oats, and a firm seed bed is always desirable. Where hairy vetch is seeded alone, 40 pounds of seed per acre should be used. The best depth of seeding is 1 to 1½ inches.

---

NOTE.—Intended for farmers in the cotton belt who desire to diversify their farming because of the economic crisis which adversely affects the cotton crop at this time.

72191—14

## PLANTING VETCH IN MIXTURES.

Hairy vetch has very slender stems, and if planted alone tends to lie on the ground. For this reason it is nearly always sown in mixture with oats, rye, or wheat, the mixture being pastured or cut for hay. An average rate for seeding these mixtures is 20 to 30 pounds of hairy vetch and  $1\frac{1}{2}$  bushels of oats or 1 bushel of rye or wheat per acre. On sandy soils rye is to be preferred. On land which has previously grown good crops of vetch the amount of vetch seed can be reduced to 20 pounds, with nearly a full seeding of oats, rye, or wheat. Hairy vetch is sometimes seeded on Bermuda grass-land in the fall, scattering 10 to 20 pounds per acre. Where the land is inoculated, this practice is frequently successful and results in greatly increasing the amount of winter pasturage.

## INOCULATION OF VETCH.

Hairy vetch does not succeed well unless the land is inoculated, so that nodules are produced on the roots. On land which has never been planted to vetch it is very important that inoculation be provided. The simplest method of inoculating is to mix the seed with soil from an old vetch field, using about as much soil as seed. If the soil is slightly moistened and mixed thoroughly with the seeds, enough of the soil will cling to the seeds to inoculate the seedling plants. Such inoculated seed is best sown on a cloudy day or harrowed in immediately after seeding, as bright sunlight is destructive to the inoculation bacteria. Soil from spots where the common "native" or narrow-leaved vetch has grown will inoculate hairy vetch. Where it is impossible to secure soil from an old field or from about the roots of "native" vetch, the artificial cultures obtainable free from the United States Department of Agriculture may be used. In this case, however, it is best to plant only an acre or so of vetches the first year, as artificial cultures are not always successful. If a field is only partially inoculated the first year the vetch will be patchy. If the same field is planted the next year perfect inoculation is to be expected.

## USES OF THE CROP.

Hairy vetch, whether seeded alone or in mixtures, may be pastured by all kinds of farm animals, or it may be cut for hay at the time the first pods are fully formed or, if in mixtures, when the grain is in the early dough stage. It may also be cut and fed green, with excellent results. Vetch planted alone, or if planted too thickly with a grain, is rather difficult to mow, because the vines become entangled. If such is the case, it is necessary to have a man with a pitchfork follow behind the mower so as to throw the cut swath out of the way.

The simple device known as a swather, shown in figure 1, may be attached behind the mower, and thus do away with the necessity of having another man. A good field of vetch and oats will yield about 2 tons of hay per acre. Fields intended for hay may be pastured by small stock when land is not wet in the spring without materially reducing the hay crop.

#### GROWING SEED FOR HOME USE.

One reason why hairy vetch has not been more used has been the high cost of the seed, which is commonly 10 to 15 cents a pound. Hairy vetch seed, however, can be satisfactorily grown throughout the cotton belt. The best plan in growing seed for home use is to delay cutting the crop or a portion of it until some of the pods have ripened, and then cure the crop for hay. If this hay with mature seeds is placed in a barn with a tight floor, enough seeds will

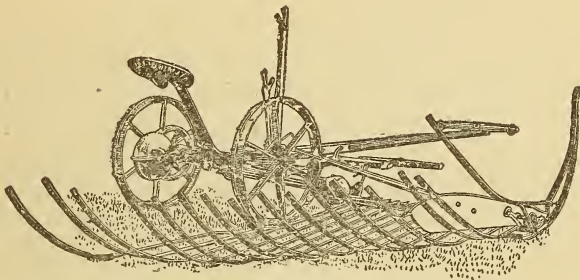


FIG. 1.—A swather or bunching attachment on an ordinary mower.

rattle out at the bottom of the stack to supply sufficient for home use, or the hay may be run through a thrashing machine if available.

With proper handling, hairy vetch will reseed itself indefinitely. At the Mississippi experiment station a crop was harvested from the same piece of land five years in succession without reseeding. The only treatment was to allow the vetch to ripen and shatter some of its seeds, then, after harvesting the vetch, to plow the land and seed to cowpeas. The cowpeas were cut for hay, after which a stand of vetch came from the shattered seeds of the previous crop.

In the regular production of hairy vetch seed, it is planted with rye or oats, using not to exceed 15 pounds of hairy vetch seed per acre to a full seeding of rye or oats. The rye or oats is then allowed to mature and harvested as grain. With the rye or oat seed will then be mixed a considerable proportion of hairy vetch seed. This can easily be separated by means of a spiral seed separator, now manufactured in the United States, which can be purchased at a cost of \$25. This is the best practice to pursue if one is growing hairy vetch seed to supply the market.



## HAIRY VETCH IN ROTATIONS.

Hairy vetch is well adapted as a winter crop to grow in rotation with such summer crops as cowpeas, soy beans, sorghums, and late-planted corn. Where the land is occupied by Johnson grass, it is a common practice to plow this under and sow hairy vetch, usually with oats in the fall. Following the crop of vetch and oats, two cuttings of Johnson grass hay are usually obtained. It is not advisable to plant hairy vetch on land that is to be seeded to cotton in the spring, as the hairy vetch crop can not be taken off as early as it is desirable to plant cotton.

More detailed information concerning hairy vetch may be found in Farmers' Bulletin 515, "Vetches," Farmers' Bulletin 529, "Vetch Growing in the South," and B. P. I. Circular 102, "The Production of Hairy Vetch Seed," all of which can be obtained free on application to the Secretary of Agriculture.